

Claims

1. An implantable device for external effecting perfusion of oxygenated blood into myocardial tissue from a left ventricle, comprising:

a shaft having an aperture running longitudinally therethrough, the shaft further comprising a proximal end terminating in a point and a distal end adapted to be detachably secured to the outside of the myocardial tissue, wherein the proximal end and the distal end are spaced to allow the proximal end to enter the left ventricle, and wherein the shaft further comprises at least one opening into the aperture between the proximal end and the distal end.

2. The device of claim 1, wherein the shaft is curved.

3. The device of claim 2, wherein the shaft is U-shaped.

4. The device of claim 1, wherein the shaft is straight.

5. The device of claim 4, wherein the shaft is blunted on the distal end.

6. The device of claim 1, wherein the aperture is coated with a substance.

7. The device of claim 6, wherein the substance is selected from the group consisting of an antibody, an inducer of angiogenesis, an antiplatelet agent and an antithrombin agent.

8. The device of claim 7, wherein the inducer of angiogenesis is human vascular endothelial growth factor.

9. The device of claim 7, wherein the antibody binds to endothelial cells.

10. The device of claim 6, wherein the substance elutes from the aperture.

11. A method of implanting a perfusion device for externally effecting perfusion of oxygenated blood into myocardial tissue of a heart's left ventricle, comprising:

providing the perfusion device, wherein the perfusion device comprises a shaft, an aperture running longitudinally through the shaft, wherein the shaft further comprises a proximal end terminating in a point and a distal end adapted to be detachably secured to the outside of the myocardial tissue, wherein the shaft further comprises at least one opening into the aperture between the proximal end and the distal end; and

inserting the device into myocardial tissue, such that oxygenated blood is perfused into the myocardial tissue from the left ventricle.

12. The method of claim 11, wherein the shaft is curved.

13. The method of claim 11, wherein the shaft is straight.

14. The method of claim 11, wherein the aperture is coated with a substance selected from the group consisting of an antibody, an inducer of angiogenesis, an antiplatelet agent and an antithrombin agent.

15. A method of treating an ischemic myocardium, comprising:

identifying a subject suffering from an ischemic myocardium;

inserting a perfusion device for externally effecting perfusion of oxygenated blood into the ischemic myocardium, whereby oxygenated blood is perfused into the ischemic myocardium from the left ventricle, wherein the perfusion device comprises a shaft having an aperture running longitudinally therethrough, the shaft further comprising a proximal end terminating in a point and a distal end adapted to be detachably secured to the outside of the myocardial tissue, wherein the proximal end and the distal end are spaced to allow the proximal end to enter the left ventricle, and wherein the shaft further comprises at least one opening into the aperture between the proximal end and the distal end.

16. The method of claim 15, wherein the device is inserted into the ischemic myocardium using an insertion tool.

17. The method of claim 15, wherein the device is inserted laparoscopically.
18. The method of claim 15, wherein the shaft is curved.
19. The method of claim 15, wherein the shaft is straight.
20. The method of claim 15, wherein the aperture is coated with a substance selected from the group consisting of an antibody, an inducer of angiogenesis, an antiplatelet agent and an antithrombin agent.